L 40001-65
ACCESSION NR: AT5007908   O

isopropylbiphenyl, the dependence of the critical number of channels for monoiso-
propylbiphenyl on the lattice spacing and for gas oil on both the temperature and
lattice spacing, as well as the calculated values of the square length of modera-
tion for biphenyl, monoisopropylbiphenyl, and gas oil. The authors conclude that
the physical experiments with critical assemblies carried out on monoisopropylbi-
phenyl and gas oil have made it possible to verify the method and system of constants
used for calculating the physical characteristics of reactors with organic heat-
transfer agents. Orig. art. has: 12 figures and 2 tables.

ASSOCIATION: None

SUBMITTED   01Aug64   ENCL: 00   SUB CODE: NP, TD

NO REF SOV: 000   OTHER: 000

Card   2/2

33232

S/089/62/012/002/003/013
B102/B138

26.2244

AUTHORS: Zvonov, N. V., Mis'kevich, A. I., Rogozhkin, I. V.,
Tereshchenko, V. I., Turkov, Zh. I., Utkin, V. P.

TITLE: Fast neutron energy spectrum and thermal neutron flux
distribution in the experimental hole of a BBP (VVR) reactor

PERIODICAL: Atomnaya energiya, v. 12, no. 2, 1962, 116 - 122

TEXT: Threshold reactions, leading to formation of gamma-active nuclei,
were used to study neutron spectra. A scintillation counter with NaI(Tl)
crystal, $\Phi$$\exists$$Y$-13 (FEU-13) photomultiplier and a 100-channel pulse-height
analyzer was used to record gamma-radiation. Al, Fe, Si, Ti, Ni, Co, Mg,
Zn, and Cu were used as indicator elements for (n,p) reactions, Al for
(n,α) reactions and In, Hg, Pb, Ag, and Ba for inelastic (n,n') reactions
in which longlife ($\geqslant$ 1-2 min) metastable levels are formed. Low threshold
energy is typical of this kind of reaction. For $In^{115}(n,n')$ it is 335 kev.
The usual threshold indicator technique was used. The spectral
distribution of neutrons was determined from the equations

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Fast neutron energy spectrum...

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$$A_i = \int_{E_{thr}^i}^{\infty} \Phi(E)\sigma_{act}^i(E)dE, \quad i = 1,2\ldots n;$$ i is the indicator index, n the

number of indicators, $\Phi(E)$ flux of neutrons of given energy, $\sigma_{act}(E)$

activation cross section, E_{thr} threshold energy. If the real cross section

$\sigma_{act}^i(E)$ is substituted by an ideal one, at a certain threshold E_{eff}^i there

will be a jump from zero to σ_o^i and $A_i = \sigma_o^i \int_{E_{eff}^i}^{\infty} \Phi(E)dE$ is obtained. σ_o^i

and E_{eff}^i may be chosen arbitrarily if only the upper equations are fulfilled.

σ_o^i was taken as the mean of $\sigma_{act}^i(E)$ and E_{eff}^i was determined from these

equations. The effective thresholds E_{eff}, effective cross sections σ_c

and integral neutron fluxes for $E > E_{eff}$, 100 kw and a channel width of

130 mm were calculated numerically. The thermal neutron flux distributions

were measured vertically and radially by means of a plate (4·5 mm) and a

Card 2/3

Fast neutron energy spectrum...

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disc (19 mm). The neutron flux in the center of the channel was measured at the level of the middle of the core with a Cu foil of 0.1415 g/cm^2. With an empty channel width of 130 mm and 100 kw the flux was $4.5 \cdot 10^{11}$ $n/cm^2 \cdot sec$. Comparison with other results shows that the same dependence of thermal neutron flux on core distance obtains for both water and concrete. There are 5 figures, 1 table, and 18 references: 3 Soviet and 15 non-Soviet. The four most recent references to English-language publications read as follows: W. Meinke. Nucleonics, 17, No. 9, 86, 1959; P. Kruger. Nucleonics, 17, No. 6, 116, 1959; R. Bullock, R. Moore. Phys. Rev. 119, No. 2, 721, 1960; R. Rochlin. Nucleonics, 17, No. 1, 54, 1959.

SUBMITTED: April 25, 1961

ROGOZHKIN, N.

Windmills

Our experiment of raising a windmill with a caterpillar tractor. Tekhsov.   MTS
13 No. 31, 1952.

9. Monthly List of Russian Accessions, Library of Congress, December   1953, Uncl.

Rogozhkin, E. P.

135-1-5/14

SUBJECT: USSR/Welding

AUTHORS: Eskin, E.M., Eng, Rogozhkin, E.P., Eng, and Novozhilov, N.M., Candidate of Technical Sciences.

TITLE: Properties of welds made in argon and in carbon dioxide. (Svoystva svarnykh soyedineniy, vypolnennykh v argone i uglekislom gaze).

PERIODICAL: "Svarochnoye Proizvodstvo", 1957, # 1, pp 15-17 (USSR).

ABSTRACT: Experimental investigation of processes in arc-welding in argon as shielding gas medium. As experimental material were used steel grades ЭИ-654, 1X18H9T and 30 ХГСА up to 3 mm in thickness, which are being welded in argon at industrial plants. The experiments were carried out in butt welding in carbon dioxide, and in pure argon with the addition of 3 - 5 % oxygen, on an automatic welding machine ААС-1000-2 equipped with generator MC-300 and transformer СТЭ -23.

Welding in carbon dioxide is characterized by a shallow weld, and is therefore considered applicable for welding of thin sheet metal or for surfacing; the obtained welds are of good appearance, with smoother transition to the base metal than the welds

Card 1/2

TITLE: Properties of welds made in argon and in carbon dioxide.
              (Svoystva svarnykh soyedineniy, vypolnennykh v argone i
              uglekislom gaze).   135-1-5/14

              made in argon. Welds on steel ЭИ 654 made in carbon dioxide
              are less prone to develop cracks during welding than the welds
              made under flux AH - 384A. Mechanical properties of weld metal
              slightly vary   with the steel composition and with the protec-
              tive welding gas, but in general carbon dioxide proves a satis-
              factory shielding medium.

              The authors mention that the origin of the method of welding
              by a melting electrode in carbon dioxide was developed by
              ЦНИИТМАШ (Central Research Institute for Heavy Machine -
              Building) in 1950-52.
              The Article contains 8 tables, 3 micro-photographs and 1
              reference (Russian.

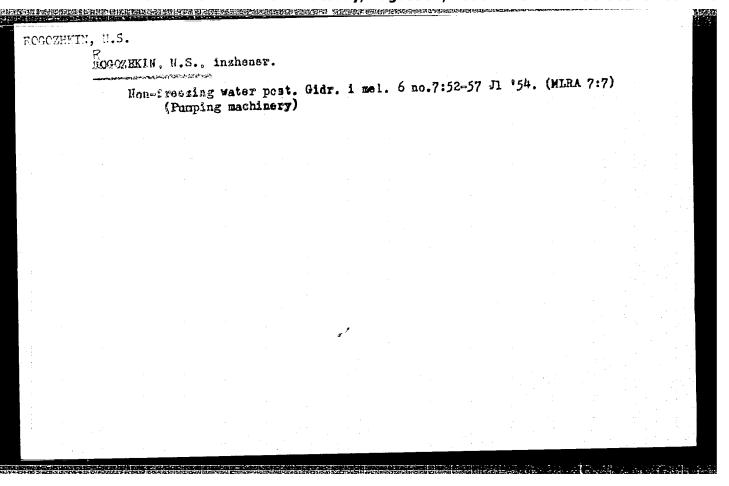INSTITUTION: TsNIITMASH (ЦНИИТМАШ , Central Research Institute for
             Heavy Machine Building).
PRESENTED BY:
SUBMITTED:
AVAILABLE: At the Library of Congress

Card 2/2

ROGOZHKIN, N.S.

ROGOZHKIN, N.S., inzhener.

Non-freezing water post. Gidr. i mel. 6 no.7:52-57 Jl '54. (MLRA 7:7)
(Pumping machinery)

ROGOZHKIN, N.S., inzhener; AVRAMOV, I.L., inzhener.

Redesigning pumping winches and pump rod and piston pumps. Sel'-
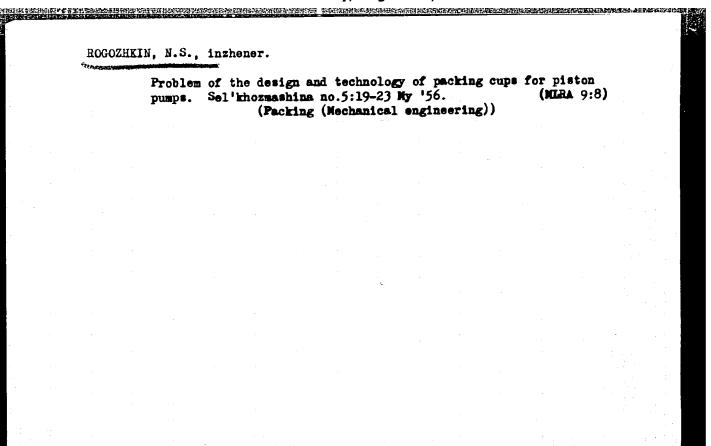khozmashina no.2:19-22 F'55.   (MLRA 8:3)
        (Pumping machinery)

ROGOZHKIN, N.S., inzhener.

Experience in installing and operating concreting combines. Bet.i zhel.-bet. no.7:232-234 Jl '56.   (MLRA 9:9)
       (Concrete construction)

ROGOZHKIN, N.S., inzhener.

Problem of the design and technology of packing cups for piston
pumps.   Sel'khozmashina no.5:19-23 My '56.   (MLRA 9:8)
                (Packing (Mechanical engineering))

ROGOZHKIN, N. S.

Windmills

Planning the crankshaft-connecting road mechanism for the pump on windmill TV-3.
Sel'khozmashina No. 8, 1952.

9. Monthly List of Russian Accessions, Library of Congress, December 1953, Uncl.

ROGOZHKIN, N.S., inzhener.

Selecting parameters and a balancing system for plunger pumps.
Gidr.i mel. 6 no.1:34-39 Ja '54.   (MLRA 7:1)
                                        (Pumping machinery)

D'YACHENKO, M.Ya. (Smolensk, ul. Frunze, d.8, kv.10); BOGOSHINA, N.I.

Epicondylotenonitis caused by superstress. Ortop. travm.
i protez. 24 no.5:63-64 My '63.   (MIRA 17:9)

1. Iz fakul'tetskoy khirurgicheskoy kliniki (zav.- prof. S.M.
Nekrasov) Smolenskogo meditsinskogo instituta.

L 25353-65   EWT(m)/EPF(c)   Pr-4   RM

ACCESSION NR: AR4039574   S/0081/64/000/005/E077/E077

SOURCE: Ref. zh. Khimiya, Abs. 5E145   14

AUTHOR: Nesmelova, Z. N.; Rogozina, Ye. A.   B

TITLE: The question of hydrogen in natural gas

CITED SOURCE: Tr. Vses. neft. n.-i. geologorazved. in-ta, vy*p. 212, 1963, 27-35

TOPIC TAGS: natural gas, hydrogen distribution, rock hydrogen content, hydrogen
biogenesis, drilling mud, natural water, natural gas chemistry, sedimentary rock,
water degasation

TRANSLATION: The composition of gases containing H and collected in various
regions of the SSSR fluctuated as follows: (in vol.% on the basis of 10 analyses):
CO_2 up to 50.5, O_2 up to 3.7, CH_4 up to 90.0, C_2H_6 up to 7.7, C_3H_8 up to 15.2,
C_4H_{10} up to 4.2, C_5H_{12} up to 0.5, H_2 0.9-37.8, CO up to 2.1 (2 analyses), C_nH_{2n}
up to 4.9 (2 analyses), N_2 + inert gases 3.7-63.8, Ar + Kr + Xe 0.015-1.512,
He + Ne 0.002-0.243. The authors point out the possibility of forming H_2 during
the degasation of the natural waters and drilling muds used in drilling. Experi-
ments were carried out to confirm the possibility of the biochemical origin of H_2

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L 25353-65

ACCESSION NR: AR4039574

in drilling mud during drilling. At the same time, the detection of H_2 in natural
gas cannot always be explained by errors in gas analysis or by an illiterate selec-
tion of samples under field conditions. The authors conclude that H_2 is widely
produced in nature from the metamorphosis of organic compounds under the influence
of biogenic, thermochemical, radioactive and other factors. Experimental data
from the study of gases adsorbed by rocks, as well as gases obtained in the free
state from drillings in the Stavropol' district, the Irkutsk region and Western
Siberia, indicate that molecular hydrogen may be found in the strata of sedimen-
tary rocks. I. Leyfman

SUB CODE: ES, GC   ENCL: 00

Card   2/2

FESENKO, N.G.; ROGOZHKIN, V.I.; FESENKO, Ye.A.; SHEYNIN, M.S.

Conditions of dissolved gases and hydrobiology of the TSimlyansk
Reservoir during the first winter's stagnation, 1952-1953. Gidro-
khim.mat.25:98-114 '55.   (MIRA 9:6)

1.Gidrokhimicheskiy institut Akademii nauk SSSR, Novocherkassk i
Dono-Kubanskaya nauchnaya rybokhozyaystvennaya stantsiya Vsesoyuznogo
nauchno-issledovatel'skogo instituta rybolovstva i okeanografii.
Rostov-na-Donu.
          (TSimlyansk Reservoir--Fresh-water biology)

ROGOZHKIN, V.I.

Basic features of the regime of gases solved in the water of
Tsimlyansk Reservoir (1952-1956). Sbor.rab.Tsim.gidromet.
obser. no.1:149-160 '58.   (MIRA 12:2)
        (Tsimlyansk Reservoir--Water--Composition)

3(9)

AUTHOR: Rogozhkin, V. I.   SOV/50-59-5-16/22

TITLE: A Scooping Device for Taking Water Samples (Batometr dlya otbora prob vody)

PERIODICAL: Meteorologiya i gidrologiya, 1959, Nr 5, pp 54 - 55 (USSR)

ABSTRACT: A scooping device is suggested here. It is used for taking water samples for the chemical analysis in investigations of reservoirs and lakes, the vertical distribution of chemical substances and the water temperature being disturbed at a minimum. The construction of the device is simple, its cylinder being of plexiglass, all the other parts of duralumin and bronze. It holds 3.5 liters and weighs 2 kg. One of the properties of a crank gear is used as a basis for the operation of the scooping device: dead points in the extreme positions. The design of the device is described here in short. By pulling a grip on the lower cover, the device is set for operation, the upper cover being opened at the same time by a lever transmission. Both the covers are kept open by a spring, the same spring holds the covers tight when they are closed. This spring and the comparatively low heat conductivity

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A Scooping Device for Taking Water Samples   SOV/5o-59-5-16/22

of the plexiglass permit the scooping device to be used in ice
at air temperatures below zero. The scooping device is closed
by the falling weight. The device was tested in the Tsimlyansk
Reservoir in winter 1956/57, and proved to be reliable at air
temperatures down to -20°. There is 1 figure.

Card 2/2

ROGOZHKIN, V.I.

Regimen of biogenic elements in TSimlyansk Reservoir (1952-1955).
Gidrokhim.mat. 28:12-27 '59.   (MIRA 12:9)

1. Gidrokhimicheskiy institut Akademii nauk SSSR, g.Novocherkassk.
      (TSimlyansk Reservoir--Water--Composition)

ROGOZHKIN, V.I., Cand Chem Sci -- (diss) "Basic *traits*
of the regime of biogenic elements and dilute gases
of the Tsimlyanskiy reservoir." Novocherkassk, 1958,
15 pp (Acad Sci USSR. Hydrochemical Inst) 110 copies
(KL, 28-58, 103)

- 5 -

ROGOZHKIN, V.I.

Provision of the Tsimlyansk water reservoir with biogenous elements.
Gidrokhim. mat. 27:52-60 '57.   (MIRA 11:4)

1. Gidrokhinicheskiy institut AN SSSR, Novocherkassk.
       (Tsimlyansk reservoir--Bacteria)

ZENIN, A.A.; ROGOZHKIN, V.I.; FESENKO, N.G.

Nature of the movement of water masses near the dam in Tsimlyansk,
Gorkiy, Kuybyshev, and Stalingrad Reservoirs. Gidrokhim. mat. 32:113-
121 '61.   (MIRA 14:6)

1. Gidrokhimicheskiy institut AN SSSR, Novocherkassk.
            (Reservoirs)
            (Hydraulics)
            (Water—Composition)

PHASE I BOOK EXPLOITATION

SOV/5374

Akademiya nauk SSSR.   Gidrokhimicheskiy institut

Gidrokhimicheskiye materialy, t. XXX (Hydrochemical substances, v. 30)
    Moscow, Izd-vo AN SSSR, 1960.   213 p.   Errata slip inserted.
    2,000 copies printed.

Sponsoring Agency: Akademiya nauk SSSR.   Gidrokhimicheskiy institut
    (Novocherkassk).

Editorial Board (Title page):   Resp. Ed.   O. A. Alekin, N. V.
    Veselovskiy, Deputy Resp. Ed.   V. G. Datsko, G. S. Konovalov,
    M. I. Kriventsov, P. A. Kryukov, Resp. Secretary and K. G.
    Lazarev.   Ed. of Publishing House: D. N. Trifonov.   Tech. Ed.:
    I. T. Dorokhina.

PURPOSE: This publication is intended for hydrologists, hydrochemists,
    and hydrometeorologists.

COVERAGE: This is a collection of 22 articles on the hydrochemistry
    of rivers and water bodies in the USSR.   The authors discuss

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Hydrochemical Substances

SOV/5374

pollution, spectrographic methods of determining the content of microelements in water, and the content and discharge of ions, gases, as well as chemical, biogenic, and organic substances. A map showing the distribution of the ionic discharge of rivers in the USSR is the most complete to appear in print to date. No personalities are mentioned. Each article is accompanied by references.

TABLE OF CONTENTS:

Card 2/8

FESENKO, N. G. ; ROGOZHKIN, V. I.

Accumulation of phosphorus and nitrogen compounds in TSimlyansk Reservoir during 1954-1957 and changes in their discharge at the water gauge point of the hydroelectric center. Gidrokhim. mat. 30:10-31 '60.   (MIRA 13:9)

1. Gidrokhimicheskiy institut AN SSSR, Novocherkassk.
       (TSimlyansk Reservoir--Water--Composition)
              (Phosphorus)   (Nitrogen)

GORLANOV, M.G., prepodavat.; F^KAZAN'YEV, Aleksandr: ADAMOV, V.V., kand.
_st. nauk, retsenzent; KULAGINA, G.A., kand. ist.nauk, retsen-
zent; BOROZDIN, Ye.A., red.; ZAVAROV, S.I., red.; POPOV, N.Ye.,
red.; ROGOZHKIN, V.N., red.; SILENSKIKH, T.N., red.; TARIKO,
A.N., red.; KOLOSNITSYN, V., redaktor; MAKSIMOVA, E., tekhn.
red.

[Revda stories; from the history of the Revda Hardware Manufactur-
ing and Metallurgical Plant]Revdinskie vyli; iz istorii Revdinsko-
go metiznometallurgicheskogo zavoda. Sverdlovsk, Sverdlovskoe
knizhnoe izd-vo, 1960. 154 p.   (MIRA 15:8)

1. Sekretar' Revdinskogo gorodskogo komiteta Kommunisticheskoy
partii Sovetskogo Soyuza (for Silenskikh).
            (Revda—Metallurgical plants)

ROGOZHKIN, Ye. P.

20

Arc Welding of Aluminium. E. P. Rogozhkin and V. V. Kostin (*Tekhnika Vozdushnogo Flota* (*Technology of Air Navy*). 1938, (5), 45-60).—[In Russian.] Arc welding for joining aluminium alloys and eliminating flaws gives as good results as oxy-acetylene welding, the output being rapid, and the operation simple. The weld metal has a tensile strength of 19 kg./mm.² and a bending angle of 16°, the corresponding figures for the base metal being 13 kg./mm.² and 8·5°. Corrosion-resistance is satisfactory. D.c. must be used, the parts must first be heated to 300°-350° C.; with intricate shapes moulds must be used and cooling must be slow, the parts and the electrodes must be thoroughly cleaned and degreased, and drawn wire electrodes of a similar composition to the work should be used with as small an arc as possible.—N. A.

SENCHIKHIN, V.M., vetvrach; STRASHKO, P.F., vetvrach.; ROGOZHKINA, V.L., laborant

Zinc phosphide poisoning of animals. Veterinariia 36 no.6:
51-55 Je '59.   (MIRA 12:10)
            (Zinc phosphide--Toxicology)

ROGOZHKIN, Ye.P.

CA

PROCESSES AND PROPERTIES INDEX

Electrode coatings for welding aviation steels. Ye. P. Rogozhkin. *Tekhnika Vozdushnogo Flota* 1939, No. 5, 31-36.—The effects of various electrode coatings upon the arc stability in welding of aviation steels were studied. From the point of view of arc stability and appearance of the weld the following two coatings are suggested: (1) in case of direct polarity, and (2) in case of reversible polarity. The resulting welds were dense, clean, and had no gas or slag inclusions.—R. Z. K.

METALLURGICAL LITERATURE CLASSIFICATION

ESKIN, Ye.M., inzhener; ROGOZHKIN, Ye.P., inzhener; NOVOZHILOV, N.M., kandidat tekhnicheskikh nauk.

Properties of joints welded in argon and carbon dioxide atmospheres. Svar. proizv. no.1:15-17 Ja '57.   (MLRA 10:2)

1. TSentral'nyy nauchno-issledovatel'skiy institut tekhnologii i mashinostroyeniya. (for Novozhilov).
        (Steel--Welding) (Protective atmospheres)

ROGOZHINA, A.P. [Rohozhyna, A.P.]; BRYANSKAYA, A.M. [Brians'ka, A.M.]

Use of distillers' grains in Actinomyces cultivation. Mikrobiol.
zhur. 27 no.5:78-80 '65.   (MIRA 18:10)

1. Kiyevskiy nauchno-issledovatel'skiy institut epidemiologii
i mikrobiologii.

ROGOZHKINA, A.Ye., inzh.; GUSEVA, Z.A., inzh.

Effect of absolute part dimensions on the fatigue curve.
Vest. mashinostr. 43 no.6:37-38 Je '63.   (MIRA 16:7)

(Metals—Fatigue)

18(5)   SOV/135-59-8-2/24
AUTHORS: Tret'yakov, F.Ye., Candidate of Technical Sciences,
                  Rogozhkina, I.K., Technician, Konstantinov, V.I.,
                  Candidate of Technical Sciences, and Polyakov, Ya.
                  M., Engineer

TITLE: Argon Shielded Arc Welding of Tantalum

PERIODICAL: Svarochnoye proizvodstvo, 1959, Nr 8, pp 5-7 (USSR)

ABSTRACT: The acceleration in the development in the chemical
                  industry, which was urged by the plenary session of
                  the Central Committee of the Communist Party of the
                  Soviet Union in May 1958, depends to a considerable
                  degree on the use of new, highly effective alloys
                  and metals. Especially important in this connection
                  is tantalum, which is very refractory and extremely
                  resistant to corrosion, mainly in regard to acids.
                  In the following part of the article the main physical
                  and mechanical qualities of tantalum are compared
                  with those of titanium, aluminum, and iron (Tables 1
                  and 2). In spite of its relatively low strength tan-
Card 1/5   talum is used in a number of industrial branches.

Argon Shielded Arc Welding of Tantalum   SOV/135-59-8-2/24

Especially in the chemical industry it is used because
of its high resistance to corrosion. In the follow-
ing part the authors speak about the use of tantalum
in the USA and about the different ways the metal is
used. The wide application of tantalum made it neces-
sary to work out methods for welding this metal. The
foreign literature discusses some aspects of arc weld-
ing of tantalum. There are however, no data given
about the technology employed in producing the welds,
and the welding equipment is not described. In Soviet
literature, there are no publications about argon-
shielded arc-welding of tantalum. Therefore, the au-
thors give some data for the welding of Soviet tan-
talum. Tantalum plates (lamellas) of 75x150 mm with
a thickness of 1.0, 1.5, 2.0 and 2.5mm were used for the
experiments. Before the welding the plates were un-
greased. Argon was used to shield the arc and the
welding. The electrodes were made of wolfram. In
setting up the working data for the welding, the direc-
tions given in the literature and the experiences
aquired in welding titanium, which is similar to tan-

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Argon Shielded Arc Welding of Tantalum   SOV/135-59-8-2/24

talum, were utilized. The welding current, the arc
voltage, and the diameter of the wolfram electrode
were determined by the strength of the welding samples.
The shielding of the front and back side of the seam
was attained by using burners, welding heads and fix-
tures, which are usually taken in welding titanium.
The working data of the welding are given in table 3.
The quality of the welded joints was controlled by
surface tests and X-ray photography, which was used
for a strength up to 2.0 mm. If the plates were
thicker than 2 mm, they were radiographed with gamma-
rays of the radioactive material thulium 170. The
best results were obtained with argon which contained
0.01% of nitrogen and carbon. The mechanical quali-
ties of the weldings were determined on standardized
samples. Breaking and bending tests were carried out
and the corrosive qualitie of the welds determined.
The tests showed, that the durability and the bending
angle of the weld were equal to the durability and
the bending angle of the basic metal in non-chilled
Card 3/5   condition. The plasticity of the welds was tested by

Argon Shielded Arc Welding of Tantalum   SOV/135-59-8-2/24

hammering on the welding seams. The metallographic
inspection of the welded joints and of the adjacent
zones showed that a coarse crystalline structure is
formed in the seam. The size of the grain decreases
with the distance from the joint. At a distance of
3-5 mm from the seam the metal is finely granulated.
The resistance to corrosion of the basic material and
of the tantalum welds was determined with samples
which were put into tightly soldered glas ampoules
filled with nitric acid of 32% and sulphuric acid of
20% concentration. The results of the corrosion
tests showed that the welds resisted corrosion in
this solution. The corrosion in the welds did not
exceed that of the whole sample, and the mechanical
qualities practically do not change at all. The in-
vestigation permits the following conclusions: it is
well possible to weld tantalum with an unmeltable
electrode of argon within direct current and with
negative poling of the electrode. Welding with tan-
talum it is necessary to shield the weld from influ-
ences of the atmosphere on front and back side. The

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Argon Shielded Arc Welding of Tantalum   SOV/135-59-8-2/24

outside is shielded by pure argon of 99.98% concentra-
tion, which comes out of the welding head. The back-
side of the welded joint is shielded by admitting ar-
gon over a grooved shim. There are 6 tables, 4 photo-
graphs and 6 references, 3 of which are Soviet and
3 English.

Card 5/5

ACC NR: AP6026962

SOURCE CODE: UR/0250/66/010/007/0441/0445

AUTHOR: Rogozhina, I. S.

ORG: Rostov Institute of Railroad Transport Engineers (Rostovskiy institut inzhenerov zheleznodorozhnogo transporta)

TITLE: A class of integral equations with a logarithmic kernel solvable in closed form

SOURCE: AN BSSR. Doklady, v. 10, no. 7, 1966, 441-445

TOPIC TAGS: integral equation, boundary value problem, Dirichlet problem

ABSTRACT: The method of analytic extension into the complex plane is used to reduce one type of integral equation with a logarithmic kernel to Hilbert's boundary value problem, which is solvable in closed form. The equation

$$a(x) \int_a^1 \varphi(t) \ln \left| \frac{x-t}{1-xt} \right| dt - \pi i b(x) \int_a^x \varphi(t) dt = \frac{1}{2} g(x), \quad |a| < 1, \, a \leqslant x \leqslant 1$$

is expressed in the form

$$a(x) \int_a^\beta \varphi(t) G(x, t) dt - \pi i b(x) \int_a^x \varphi(t) dt = \frac{1}{2} g(x), \quad a \leqslant x \leqslant \beta,$$

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L 03022-67

ACC NR: AP6026962

where $G(x,t)$ is Green's function for the Dirichlet problem, after consideration of the boundary value problem

$$\Phi^+(x) = \frac{b(x) - a(x)}{a(x) + b(x)} \Phi^-(x) + \frac{g(x)}{a(x) + b(x)}, \; a \leqslant x \leqslant 1,$$

$$\mathrm{Re}_{|\zeta|=1} \Phi(\zeta) = 0.$$

where

$$\Phi(z) = \int_a^1 \varphi(t) \ln\left(\frac{t-z}{zt-1}\right) dt,$$

Presented by N. P. Yerugin, Academician of the AN BSSR. Orig. art. has: 22 formulas.

SUB CODE: 12/   SUBM DATE: 28Jan66/   ORIG REF: 003/   OTH REF: 001

Card 2/2

ESKIN, V.Ye.; IZYUMNIKOV, A.L.; ROGOZHKINA, Ye.D.; VYRSKIY, Yu.P.

Composition inhomogeneity of statistical styrene - butyl
methacrylate copolymers. Vysokom. soed. 7 no.7:1184-1187 Jl
'65.

(MIRA 18:8)

1. Fiziko-khimicheskiy institut imeni Karpova i Institut
vysokomolekulyarnykh soyedineniy AN SSSR.

ROGOZHINSKAYA, N.I.

Methods for the determination of water vapor pressure in sublimation
drying. Trudy MTIPP no.8:143-155 '57.   (MIRA 10:12)
            (Drying)   (Sublimation (Physical sciences))

ROGOZHNIKOV, I.A.; KONYAYEV, A.A.

     Efficient way of organizing dredging operations in winter conditions.
     Trudy Unipromedi no.2:215-227 '57.   (MIRA 11:11)
           (Gold dredging—Cold weather conditions)
           (Dredging machinery—Cold weather operation)

PETROV, A.D.; SUSHCHINSKIY, V.L.; ZAKHAROV, Ye.P.; ROGOZHNIKOVA, T.I.

Synthesis of branched aliphatic hydrocarbons of C_{10}--C_{15} composition by means of Grignard and Grignard-Wurtz reactions. Zhur. ob. khim. 27 no.2:467-475 F '57.   (MLRA 10:6)

1. Moskovskiy khimiko-tekhnologicheskiy institut imeni D.I. Mendeleyeva.

(Hydrocarbons)   (Grignard reagents)

ROGOZhNIKOVA, T. I.

Synthesis of branched aliphatic C_8-C_9 hydrocarbons by the Grignard and the Grignard-Wurtz reactions. A. D. Petrov, V. I. Suahchinskii, E. P. Zakharov, and T. I. Rogozhnikova (D. I. Mendeleev Chem. Technol. Inst., Moscow). *Zhur. Obshchei Khim.* 27, 407–75(1957); cf. *C.A.* 50, 4774g, 4835b.—Isobutenylmagnesium bromide reacts with even highly branched ketones normally and yields 50–60% tertiary alcs. The yields of hydrocarbons in a Grignard-Wurtz reaction increase with introduction of a double bond into the 2-position of the alkyl halide relative to the halogen position. The technique used is not described (cf. above refs.). 2,4,4-Trimethyl-3-pentanone 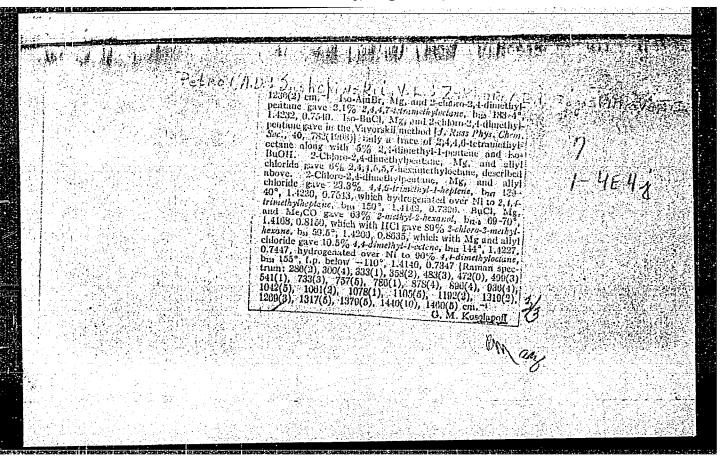gave 61.5% 2,5,5-*trimethyl-4-isopropyl-1-hexen-4-ol*, b_{11} 80.9°, n_D^{19} 1.4590, d_{30} 0.8654, which over Ni hydrogenated to *2,5,5-trimethyl-3-isopropyl-3-hexanol*, b_2 65.6–6.5°, 1.4505, 0.8553, dehydrated with AcONa-Ac$_2$O to *2,2,5-trimethyl-3-isopropyl-3-hexene*, b_4 49°, 1.4432, 0.7806, which hydrogenated over Pd to 69% *2,2,5-trimethyl-3-isopropylhexane*, b_{10} 182.6°, 1.4294, 0.7669 [Raman spectrum, cm.$^{-1}$: 252(2), 317(1), 440(3), 476(2), 500(1), 534(5), 595(2), 640(2), 695(3), 762(4), 793(1), 834(6), 890(0), 927(4), 956(4), 1006(3), 1039(5), 1081(1), 1117(3), 1175(2), 1196(2), 1218(3), 1237(2), 1250(2), 1313(4), 1354(3), 1396(1), 1453(10), 1472(10)]. Me$_2$CO, EtBr, and Mg gave 64% *2-methyl-2-butanol*, b_{10} 100.5–1°, 1.4056, 0.8087, which with HCl gave 81% *2-methyl-2-chlorobutane*, b. 85.7°, 1.4069, 0.8706, which with Mg and mesityl oxide gave 6% *4,4,5,5-tetramethyl-2-heptanone*, b_{14} 120.5°, 1.4702, 0.8969 (2,4-dinitrophenylhydrazone, m. 114°), which with Mg and isobutenyl chloride gave 50% *2,4,6,6,7,7-hexamethyl-1-nonen-4-ol*, b_2 100–2°, 1.4835, 0.9032, which with NaOAc-Ac$_2$O dehydrated to 82.5% *2,4,6,6,7,7-hexamethyl-1,3-nonadiene*, b_3 78°, 1.4779, 0.8325, hydrogenated over Ni to *2,4,6,6,7,7-hexamethyl-3-nonene*, b_1 97.5°, 1.4551, 0.8169, and hydrogenated over Pd to *2,4,6,6,7,7-hexamethylnonane*, b_{14} 94–4.5°, 1.4510, 0.8028. EtBr, Mg, and pinacolone gave 46% *2,3,3-trimethyl-3-pentanol*, $b_{11.5}$ 67.8–8.0°, 1.4359, 0.8310, which with HCl gave 77.7% *3-chloro-2,2,3-trimethylpentane*,

...kov); ...; Juschinskii, V.L.; Zakharov, E.P.; Kozozhnikov, I.I.

b$_{12}$ 70.5–1°, 1.4445, 0.9069, which with Mg and allyl chloride gave 8.9% *4,5,5-trimethyl-4-ethyl-1-hexene*, b$_{12}$ 59°, 1.4403, 0.7834, which hydrogenated to *2,2,3-trimethyl-3-ethylhexane*, 90% b$_{13}$ 176.5–7°, f.p. –119°, 1.4386, 0.7756. *3-Chloro-2,2,3-trimethylpentane*, Mg, and isobutenyl chloride gave 8% *2,4,5,5-tetramethyl-4-ethyl-1-hexene*, b$_7$ 71°, 1.4513, 0.8011, hydrogenated over Ni to *2,2,3,5-tetramethyl-3-ethylhexane*, b$_{13}$ 102.5–3°, f.p. –108°, 1.4405, 0.7862 [Raman spectrum: 250(3), 295(2), 668(4), 700(2), 736(2), 838(4), 845(4), 890(3), 927(4), 964(2), 996(1), 1030(4), 1110(3), 1198(1), 1228(1), 1300(1), 1352(2), 1456(8), 1470(5)]. *Iso-*

PrBr, Mg, and ethylene oxide gave 62% *3-methyl-1-butanol*, b$_{11}$ 130–1°, n$_D^{20}$ 1.4058, 0.8133, which with 40% HBr–H$_2$SO$_4$ gave 60% *iso-AmBr*, which with Mg and pinacolone gave 52% *2,3,3,6-tetramethyl-3-heptanol*, b$_7$ 69.2–71.5°, 1.4387, 0.8600, which with HCl gave 51% *3-chloro-2,3,3,6-tetramethylheptane*, b$_5$ 62.6–3°, 1.4403, 0.8841, which with Mg and allyl chloride gave 5.3% *4,7-dimethyl-4-tert-butyl-1-octene*, b$_2$ 57–8°, 1.4370, 0.7760, which hydrogenated over Ni to 80% *4,7-dimethyl-4-tert-butyloctane*, b$_2$ 54°, f.p. –110°, 1.4316, 0.7704. Pinacolone, Mg, and allyl chloride gave 87.3% *4,5,5-trimethyl-1-hexen-4-ol*, b$_{13}$ 87°, 1.4485, 0.8569, which with HCl gave 72% *4-chloro-4,5,5-trimethyl-2-hexene*, b$_7$ 42.7–3°, 1.4546, 0.9052, which with Mg and iso-AmBr gave 23% *4,7-dimethyl-4-tert-butyl-2-octene*, b$_5$ 70.4°, 1.4363, 0.7810, hydrogenated over Ni to 76% *4,7-dimethyl-4-tert-butyloctane*, b$_{11}$ 87°, 1.4315, 0.7703. McBr, Mg, and iso-BuAc gave 76.6% *2,4-dimethyl-2-pentanol*, b$_{11}$ 59.5°, 1.4170, 0.8119, which with HCl gave 89% *2-chloro-2,4-dimethylpentane*, b$_{11}$ 46°, 1.4182, 0.8628, which with Mg and PrCl gave 8.8% *2,4,4-trimethylheptane*, b$_{41}$ 149.5°, 1.4143, 0.7400 (prepn. of this by addn. to Mg of PrCl and 2-chloro-2,4-dimethylpentane gave only an insignificant yield of this product; the reaction did yield 11% *Et 2,4-dimethyl-2-pentyl ether*, b$_{14}$ 130–1°, 1.4159, 0.7888, and 5% *2,4,4,5,5,7-hexamethyloctane*, b, 216–17°, 1.4446, 0.7802, whose Raman spectrum was 697(4), 832(3), 936(2), 960(4), 1175(1), 1219(3), ...

1236(2) cm.⁻¹ Iso-AmBr, Mg, and 2-chloro-2,4-dimethyl-pentane gave 2.1% 2,4,4,7-tetramethyloctane, b₃₃ 183-4°, 1.4232, 0.7510. Iso-BuCl, Mg, and 2-chloro-2,4-dimethyl-pentane gave in the Vavorskii method [J. Russ. Phys. Chem. Soc., 40, 782(1908)] only a trace of 2,4,4,6-tetramethyl-octane along with 6% 2,4-dimethyl-1-pentene and iso-BuOH. 2-Chloro-2,4-dimethylpentane, Mg, and allyl chloride gave 6% 2,3,4,6,6,7-hexamethyloctane, described above. 2-Chloro-2,4-dimethylpentane, Mg, and allyl chloride gave 23.3% 4,4,6-trimethyl-1-heptene, b₃₃ 120-40°, 1.4220, 0.7513, which hydrogenated over Ni to 2,4,6-trimethylheptane, b₃₃ 150°, 1.4142, 0.7300. BuCl, Mg, and Me₂CO gave 63% 2-methyl-2-hexanol, b₃₃ 69-70°, 1.4168, 0.8150, which with HCl gave 80% 2-chloro-2-methyl-hexane, b₃₃ 59.5°, 1.4200, 0.8535, which with Mg and allyl chloride gave 10.5% 4,4-dimethyl-1-octene, b₃₃ 144°, 1.4227, 0.7447, hydrogenated over Ni to 90% 4,4-dimethyloctane, b₃₃ 155°, f.p. below −110°, 1.4140, 0.7347 [Raman spectrum: 286(2), 300(4), 333(1), 358(2), 483(3), 472(0), 499(3), 541(1), 733(3), 757(5), 780(1), 878(4), 890(4), 936(4), 1042(5), 1061(3), 1078(1), 1105(5), 1192(3), 1310(2), 1269(3), 1317(5), 1370(5), 1440(10), 1460(5) cm.⁻¹

G. M. Kosolapoff

79-2-42/58

AUTHORS: Petrov, A. D.; Sushchinskiy, V. L.; Zakharov, Ye. P.; Rogozhnikova, T. I.

TITLE: Synthesis of Branched Aliphatic Hydrocarbons of the C_{10} - C_{15} Composition by the Grignard and Grignard-Wuertz Reactions (Sintez razvetvlennykh alifaticheskikh uglevodorodov sostava C_{10} - C_{15} po reaktsiyam Grin'yara i Grin'yara-Vyurtsa)

PERIODICAL: Zhurnal Obshchey Khimii, 1957, vol 27, No 2, pp. 467-475 (U.S.S.R.)

ABSTRACT: It was established experimentally that allyl halides even with highly branched ketones react normally. This fact makes this reaction suitable for the derivation of branched hydrocarbons having one or two quaternary carbon atoms. It is shown that Mg-halide isobutenyl reacts even with highly branched ketones resulting in the formation of homologous tertiary alcohols. The condensation of saturated tertiary alkyl fluorides was realized and by the Yavorskiy method using allyl halides. The fluorides ized and by the Yavorskiy method using allyl halides. The fluorides compared with chlorides of analogous structure gave 300% more hydrocarbon yields. It is shown that the hydrocarbon yields (hydrocarbons synthesized by the Grignard-Wuertz method) increase by the introduction into the alkyl

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79-2-42/58

Snythesis of Branched Aliphatic Hydrocarbons of the C_{10} - C_{15} Composition
by the Grignard and Grignard-Wuertz Reactions

halides a multiple bond in beta-position relative to the halide-carbon bond
(in the case of sigma,pi - conjugation) as well as in the case of sigma,
sigma-conjugation.

The higher yields in the case of fluorides are explained mainly by their
greater activity because the energy of the C-F bond is 102 cal whereas
the energy of the C-Cl bond is only 78 cal.

There are 19 references, of which 9 are Slavic

ASSOCIATION: Moscow Chemical-Technological Institute imeni D. I. Mendeleyev

PRESENTED BY:

SUBMITTED: March 9, 1956

AVAILABLE: Library of Congress

Card 2/2

MIRONOV, K.Ye.; DZYATKEVICH, B.S.; ROGOZHNIKOVA, T.I.

A reaction of hydrogen peroxide formation in the medium of liquid ammonia. Izv. Sib. otd. AN SSSR no.11:130-132 '61.   (MIRA 15:1)

1. Institut neorganicheskiy khimii Sibirskogo otdeleniya AN SSSR, Novosibirsk i Institut i neorganicheskoy khimii imeni N.S. Kurnakova, Moskva.
(Hydrogen peroxide)

EPSHTEYN, Ya.A.; AVETIKYAN, B.G.; LAVROVSKAYA, N.F.; ROGOZHNIKOVA, V.M.;
    ARTEMOVA, A.G.

Biochemical changes in the organism of the carp produced by the
administration of antigens. Biokhimiia 25 no. 3:427-435 My-Je
'60.   (MIRA 14:4)

1. Research Institute of Lake and River Fisheries and Institute of
Experimental Medicine, Leningrad.
  (ANTIGENS AND ANTIBODIES) (FISHES—PHYSIOLOGY)

ZOLOTNITSKIY, A.A.; ROGOZHINSKIY, P.V.; TSUKANOV, P.P., kand.tekhn.nauk.

Maintenance of "R75" rails. Put' i put.khoz. 6 no.11:38-40 '62.
(MIRA 16:1)

1. Nachal'nik Kuybyshevskoy distantsii Kuybyshevskoy dorogi
(for Zolotnitskiy). 2. Nachal'nik puteobsledovatel'skoy
stantsii Kuybyshevskoy dorogi (for Rogoshinskiy). 3. Ruko-
voditel' rel'sovoy laboratorii Vsesoyuznogo nauchno-issledovatel'-
skogo instituta zheleznodorozhnogo transporta (for TSukanov).
(Railroads—Rails)

ROGOZHKINA, A.Ye., inzh.

Fatigue strength of solid and hollow axles in the press fit.
Trudy VNITI no.16:28-33 '62.   (MIRA 17:1)

ANTONOV, Ye.G., inzh.; KAINOVA, G.Ye., inzh.; ROGOZHKINA, I.K., tekhnik

"Flexibl" chamber for argon-arc welding of titanium structures.
Svar.proizv. no.12:34-35 D '64.   (MIRA 18:1)

PROKHOROVA, S.Kh.; KOZ... ..., G.A.; ... ...SEV, I.A.; ...ROVA, L.Ye.

Distribution of promoters in iron catalysts for ammonia synthesis.
Kin. i kat. 6 no.4:754-75... Jl-Ag '65.   (MIRA 18:9)

1. Moskovskiy khimiko-tekhnologicheskiy institut imeni D.I.Mendeleyeva.

ROGOZHNIKOV, A.N., inzh.; MARCHENKO, Yu.P., inzh.

Using an emulsion diluent of oil paints in finishing opera-
tions. Stroi. truboprov. 7 no.5:13-14 My '62.   (MIRA 16:6)

1. Trest Omsknefteprovodstroy, Omsk.
          (Emulsions)   (Thinner(Paint mixing))

ACC NR: AP7006258   SOURCE CODE: UR/0062/67/000/001/0195/0197

AUTHOR: Tsentsiper, A. B.; Rogozhnikova, T. I.

ORG: Institute of General and Inorganic Chemistry im. N. S. Kurnakov, Academy of
Sciences, SSSR (Institut obshchey i neorganicheskoy khimii Akademii nauk SSSR)

TITLE: On the fusion of potassium superoxide

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 1, 1967, 195-197

TOPIC TAGS: potassium compound, superoxide, melting point

ABSTRACT: The effect of pressure (1, 15, 100, 400 and 750 mm Hg) on the melting point
of KO_2 was studied by means of a differential-thermal recording of heating and
cooling curves. The fusion process was found to be preceded by the dissociation of
KO_2, which begins at the temperature at which the external pressure becomes less than
the equilibrium pressure. At a pressure of about 9 atm and $565°K$, KO_2 (containing
6.6% KOH as an impurity) melts without decomposing. It is postulated that KO_2 con-
tains a eutectic with the product of its dissociation. Since the initial substance
contains 6.6% KOH, the determination of the true melting of KO_2 will be possible only
after the influence of this impurity on the fusion of KO_2 has been established.
Orig. art. has: 2 figures and 1 table.

SUB CODE: 07/ SUBM DATE: 22Jun66/ ORIG REF: 001/ OTH REF: 003

Card   1/1   UDC: 542.49+611.312

ROGOWIEW, R.

TECHNOLOGY

PERIODICAL: HUTNIK, Vol. 25, no. 10 Oct. 1958.

ROGOWIEWICZ, R.   SOme words about the prices and the calculation of prime costs in
    metallurgic plants producing special steel. p. 402.

MONTHLY LIST of East European Accessions (EEAI) LC Vol. 8, No. 4, April, 1959, Unclass.

ROGOZIK, Henryk

Electric-arc fettling machines. Problemy proj hut maszyn 11
no.8:259-262 Ag '63.

1. Bepes, Radom.

ROGOZIN, A.A.

Experience in using electronic computers for the determination of
the elements of waves by the stereophotogrammetric method.
Meteor.i.gidrol. no.9:42-45 S '63.   (MIRA 16:10)

1. Institut zemnoy kory Sibirskogo otdeleniya AN SSSR.

ROGOZIN, A.A.

Auxiliary aerial photography for the identification of terrain points.
Geod.i kart. no.5:40-42 My '61.   (MIRA 14:6)
(Aerial photogrammetry)

ROGOZIN, A.N., nauchnyy sotrudnik

     Causes of filling breakage on automatic looms. Tekst.prom.
     23 no.1:54-57 Ja '63.   (MIRA 16:2)

     1. Ivanovskiy nauchno-issledovatel'skiy tekstil'nyy
     institut (IvNITI).
                         (Looms)

ROGOZIN, A N.
P. S

PHASE I BOOK EXPLOITATION   SOV/3482

Nauchno-tekhnicheskoye obshchestvo mashinostroitel'noy promyshlennosti.
Sverdlovskoye otdeleniye

Mekhanizatsiya i avtomatizatsiya mashinostroitel'nogo proizvodstva (Mechaniz-
ation and Automation in the Machine-Building Industry) Moscow, Mashgiz,
1959. 519 p. 12,000 copies printed.

Ed.: Ye. V. Pal'mov, Doctor of Technical Sciences; Tech. Ed.: N. A. Dugina;
Editorial Board: P. P. Vshivkov, Engineer, V. V. Kuvshinskiy, Candidate of
Technical Sciences, Ye. V. Pal'mov, Doctor of Technical Sciences, Yu. P.
Poruchikov, Candidate of Technical Sciences,V. V. Stepanov, Candidate of
Technical Sciences, K. N. Sokolov, Candidate of Technical Sciences, V. I.
Sokolovskiy, Candidate of Technical Sciences, M. I. Sustavov, Engineer,
B. K. Shunayev, Candidate of Technical Sciences, and P. V. Chernogorov, Profes-
sor.

PURPOSE: This book is intended for production engineers and personnel engaged
in industrial planning.

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Mechanization and Automation (Cont.)   SOV/3482

COVERAGE: The material presented in this book is said to be based on practices
   developed and tested in the machine-building plants of the Urals and
   of Siberia. Listed are various methods of mechanization and automation
   and their applications in foundries, forging shops, and assembly shops.
   Other fields of use include welding, hoisting, conveying, heat treatment, and
   quality control on an industrial scale. Various mechanisms, devices, tools,
   and instruments currently used in mechanization and automation of these in-
   dustrial processes are described and illustrated. The equipment mentioned is
   said to have been produced by the plants using their own resources. The
   economic aspects of mechanization and automation are discussed. There are
   494 Soviet references.

TABLE OF CONTENTS:

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Mechanization and Automation (Cont.)   SOV/3482

MECHANIZATION AND AUTOMATION IN FOUNDRIES

Card 3/15

ROGOZIN, A. S., jt. au.

Nikulin, N. V.

Fire prevention in electrical installations Moskva, Izd-vo Ministerstva kommunal'nogo khoziaistva RSFSR, 1954 270 p. (55-33026)

1. Electric apparatus and appliances - Safety measures.
2. Fire prevention. I. Rogozin, A.S. jt. aul

ROGOZIN, A. S.

N/5
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Pozharnaya Profilantika V Elektrotekhnicheskikh Ustanovkakh (Fire Prevention in Electro-Technical Installations, By) N. V. Nikulin I A. S. Rogozin. Moskva, Izd-vo Ministerstva Kommunal'nogo Khozyaystva RSFER, 1954.

270 P. Illus., Diagrs.

Bibliography: P. 269.

NIKULIN, N.V.; ROGOZIN, A.S.; CHERKASOV, V.N., redaktor; IOFFE, M.L.,
     redaktor; PETROVSKAYA, Ye., tekhnicheskiy redaktor.

[Fire prevention in electrical installations] Pozharnaia profilaktika
v elektrotekhnicheskikh ustanovkakh. Moskva, Izd-vo Ministerstva kommu-
nal'nogo khoziaistva RSFSR, 1954. 270 p.   (MIRA 8:2)
        (Electric engineering--Safety measures) (Fire prevention)

ROGOZIN, B. A.

Dissertation defended for the degree of <u>Candidate of Physicomathematical</u>
<u>Sciences</u> at the Mathematical Institute imeni V. A. Steklova 1962:

"Several Exteme Problems in the Field of Limit Theorems."

Vest. Akad. Nauk SSSR.   No. 4, Moscow, 1963, pages 119-145

ROGOZIN, B.A. (Moscow)

Evaluation of concentration functions. Teor. veroiat i ee prim. 6
no.1:103-105 '61.   (MIRA 14:6)
(Functions)

●

BOROVKOV, A.A.; PRIGARIN, B.A. (Novosibirsk)

Central limit theorem in the multidimensional case. Teor. veroiat.
i ee prim. 10 no.1:61 69 '65.   (MIRA 18:3)

1, Institut matematiki Sibirskogo otdeleniya AN SSSR i Novosibirskiy
gosudarstvennyy universitet.

ROGOZIN, B.A. (Moscow)

Increase of the dispersion of sums of independent random variables.
Teor. veroiat. i ee prim. 6 no.1:106-108 '61.   (MIRA 14:6)
(Functions)

ROGOZIN, B.A. (Moscow)

Comment on the paper "A moment inequality, with an application to the
central limit theorem" [in English] by C.A. Esseen. Teor.
veroiat. i ee prim. 5 no.1:125-128 '60.   (MIRA 13:10)
     (Limit theorems (Probability theory))   (Esseen, C.A.)

ACCESSION NR: AT4039218   S/0000/63/000/000/0049/0055

AUTHOR: Meshalkin, L. D.; Rogozin, B. A.

TITLE: Estimate of the distance between distribution functions according to the closeness of their characteristic functions, and its application to the central limit theorem

SOURCE: AN UzSSR. Institut matematiki. Predel'ny*ye teoremy* teorii veroyatnostey (Limit theorems for the theory of probability). Tashkent, Izd-vo AN UzSSR, 1963, 49-55

TOPIC TAGS: statistics, probability, distribution function, statistical function, probability function, characteristic function, probability theory, limit theorem

ABSTRACT: The existing estimates of the distance between distribution functions in accordance with the behavior of their characteristic functions impose stringent restrictions on this behavior. Recently (1958) the second author obtained an estimate for the closeness of distribution functions without presuming the existence

of $\int_{-T}^{T} |f(t)-g(t)|/t|\,dt$, where $f(t)$ and $g(t)$ are the charac-

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ACCESSION NR: AT4039218

teristic functions. The present paper is devoted to the extension and refinement of the results obtained in this earlier paper. If $F(x)$ and $G(x)$ are the corresponding probability distributions, the authors state and prove five theorems on estimates of $|F(x)-G(x)|$, and, in conclusion, give an application of these theorems to obtain an estimate of the remainder term in the central limit theorem. Orig. art. has: 32 formulas.

ASSOCIATION: Institut matematiki UzSSR (Institute of Mathematics AN UzSSR)

SUBMITTED: 29Apr63   DATE ACQ: 06Apr64   ENCL: 00

SUB CODE: MA   NO REF SOV: 002   OTHER: 001

Card 2/2

L 42288-65   EWT(d)   IJP(c)

ACCESSION NR: AP4045051   UR/0052/64/009/003/0498/0515

AUTHOR: Rogozin, B. A. (Novosibirsk)

TITLE: Distribution of first crossing

SOURCE: Teoriya veroyatnostey i yeye primeneniya, v. 9, no. 3, 1964, 498-515

TOPIC TAGS: random process, probability

ABSTRACT: The author is concerned with the distribution of the first crossing χ_x^+ (χ_x^-) of the level $x > 0$ ($x < 0$) by the sequence $S_n = \sum_{k=1}^{n} \xi_i$, $n = 1, 2, \ldots$ formed from the independent identically distributed random variables $\xi_1, \xi_2, \ldots$ and with the distributions of $\eta^+ = \sup_{n > 0}(0, S_n)$ ($\eta^- = \inf_{n > 0}(0, S_n)$) and N_x^+ (N_x^-), the subscript of the first S_n to exceed x (be less than x). By the method of factorization of F. Spitzer (A tauberian theorem and its probability interpretation, Trans. Amer. Math. Soc., 94 (1960), 150-169) and G. Baxter (An operator identity, Pacific J. Math., 8 (1958), 649-663), he first finds the statistical properties of $\chi^+ = \chi_0^+$ and η^+ in terms of those of ξ_1. From these he deter-

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L 42288-65
ACCESSION NR: AP4045051

mines the distribution of χ_x^+. For example, when $\sum_{n=1}^{\infty} \frac{1}{n} P\{S_n > 0\} = \infty$ he

finds that for $x > 0$, $y > 0$, $P\{\chi_x^+ \geq y\} = 1 + \int_0^y a(t)dR(x+y-t)$ where $a(t) =$

$P\{\chi^+ \geq t\}$ and $\int_0^\infty e^{i\lambda x}dR(x) = [1 - E(e^{i\lambda x^+})]^{-1}$ for Im $\lambda > 0$. He also finds

the limiting distribution as $x \to \infty$ of χ_x^+ in the nonlattice case. When

$\sum_{n=1}^{\infty} \frac{1}{n} P\{S_n > 0\} < \infty$, he finds $P\{\chi_x^+ \geq y, \eta^+ \geq x\}$ in terms of the distribu-

tion of η^+ and the conditional distribution of χ^+ given $\eta^+ > 0$. Next, he obtains

certain asymptotic results, for example, concerning $\frac{a(t)}{\psi(t)}$ where $a(t) = E(t) -$

$P\{\chi^+ < t\}$, E is the distribution function concentrating all of its mass at 0,

and $\psi(x) = E(x) - F(x)$, F being the distribution function of ξ_1. He concludes

with some results on related topics such as the rate of decrease of $\beta(t) =$

$P\{\eta^+ < t\}$ and some errors of Sinay and Dynkin. "In conclusion the author

wishes to express his gratitude to Yu. V. Prokhorov for calling the attention of

the author to the problems treated in this work, and also to A. A. Borovkov, whose

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L 42288-65
ACCESSION NR: AP4045051

valuable remarks made it possible to improve the contents of the work." Orig.
art. has: 22 formulas.

ASSOCIATION: none

SUBMITTED: 20Jan64   ENCL: 00   SUB CODE: MA

NO REF SOV: 009   OTHER: 005

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(continued)

Magnitude distribution of the first jump law, correlated
pole. 9 no.3: (MIRA 17:10)

BOROVKOV, A.A.; ROGOZIN, B.A.

Asymptotic representations in certain problems for two-dimensional
random walks. Dokl. AN SSSR   151   no.1:11-14   Jl   '63.

(MIRA 16:9)

1. Institut matematiki s vychislitel'nym tsentrom Sibirskogo
otdeleniya AN SSSR i Novosibirskiy gosudarstvennyy universitet.
Predstavleno akademikom A.N.Kolmogorovym.

(Boundary value problems) (Probabilities)

SOV/52-3-2-5/10

AUTHOR: Rogozin, B. A.

TITLE: Some Problems in the Field of Limit Theorems (Nekotoryye zadachi iz oblasti predel'nykh teorem)

PERIODICAL: Teoriya veroyatnostey i yeye primeneniya, 1958, Vol III, Nr 2, pp 186-196 (USSR)

ABSTRACT: Often a problem arises in the theory of probability when a convergence of some fixed laws, such as the sum of independent, unevenly distributed random variables is required. An example of such a problem is the case of determination of a limiting distribution of residual particles in a branching process where the particles are scattered inside a domain with absorbing boundaries. Statistically, the problem can be described by a sequence $\xi_1, \ldots, \xi_n, \ldots$ of equally distributed, independent random variables with the distribution function $F_i(x)$. Then the probability P of obtaining a convergence of a fixed mathematical law $F_\alpha(x)$ can be expressed as $P(\xi_1 + \ldots + \xi_n/B_n < x) \to F_\alpha(x)$ at $n \to \infty$. The above can be proved by forming a series (ξ_{nn}) based on the sequence (ξ_i) . Then a formula (1) can be derived from

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SOV/52-3-2-6/10

Some Problems in the Field of Limit Theorems

which, after partial integrating, an Eq.(2) is obtained. The first (Eq.3) and the second (Eqs.4 and 5) components are now deduced from Eq.(2). Finally, the characteristic function $f_\alpha(t)$ of $F_\alpha(x)$ is found, which concludes the proof.

Another problem is the determination of the space between distribution functions based on similarity of their characteristic functions. The determination depends on the properties of one of the distribution functions, e.g. it is not possible to obtain ε related only to $\delta(\delta > 0)$ so that $\sup_t |f_1(t) - f_2(t)| < \varepsilon$ is derived from $\sup_x |F_1(x) - F_2(x)| < \delta$.

However, it is possible to find such ε for any $\delta < 0$ which will be related to F_1 and δ, that $\sup_x |F_1(x) - F_2(x)| < \delta$

can be derived from $\sup_t |f_1(t) - f_2(t)| < \varepsilon$. However, as it is necessary to introduce an integral for the final calculation, some rigid conditions must be fulfilled. These are:
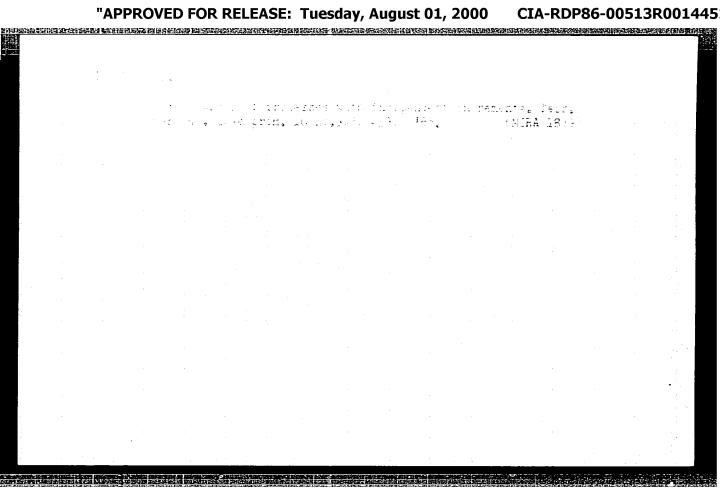
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SOV/52-3-2-6/10

Some Problems in the Field of Limit Theorems

$|p_1(x)| < c < \infty$ and $|F_1(-x) + 1 - F_1(x)| < C(x)$. Similarly a space can be determined between two sets of distribution functions $F_{1\alpha}(x)$ and $F_{2\alpha}(x)$ where α is included into a set of numbers $\alpha_1 < \alpha \leqslant \alpha_2$ which are within the characteristic functions $f_{1\alpha}(t)$ and $f_{2\alpha}(t)$. Then the formula (22) could be applied for any β , $0 < \beta < 1$ where $N(\beta)$ is a function dependent on $F_1(x)$. There are 5 references, of which 4 are Soviet and 1 is English.

SUBMITTED: March 20, 1958.

Card 3/3

ROGOZIN, B.K., inzh.

Utilization of vessels with underwater wings in organizing express
passenger lines. Rech.transp. 18 no.7:14-17 Jl '59.   (MIRA 12:11)
                    (Inland water transportation)

ROGOZIN, F., gornyy master

     Newspapers and magazines in every miner family. Mast. ugl. 8
     no.5:18 My '59.   (MIRA 12:8)

     1.Shakhta im. Lenina,kombinata Kizelugol'.
           (Kizil Basin--Newspapers)

RChKOTS, I.

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Planning the milking on a farm Kolkh. proizv. / No. 2, 1952

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9. **Monthly List of Russian Accessions**, Library of Congress, _____June_____ 1953. Unclassified.

KAZOVSKIY, Ye.Ya., doktor tekhn. nauk, prof. (Kumertau);
        ROGOZIN, G.G., inzh. (Kumertau)

Study of transients in turbogenerators using a frequency
characteristics technique. Elektrichestvo no.2:42-48
F '64.   (MIRA 17:3)

ROGOZIN, G.G., inzh.

Checking the synchronous operation of oil-filled switches. Energetik
12 no.1:30 Ja '64.   (MIRA 17:3)

ROGOZIN, G.G., inzh. (Kumertau)

Increase in the operational reliability of RLNO-110-type disconnectors.
Energetik. 13 no.7:23-24 Jl '65.

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   Experimental determination of the frequency characteristics
   of turbogenerators. Elektrichestvo no.10:14-22 0 '63.
                                            (MIRA 16:11)

ROGOZIN, G.M.; TSYNKOV, M.Yu., kand. sel'skokhozyaystvennykh nauk; LOBANOVA,
A.A., kand. sel'skokhozyaystvennykh nauk; RUMYANTSEVA, T.V.;
TRUDOLYUBOV, B.A., kand. sel'skokhozyaystvennykh nauk; KUDRYAVTSEV,
P.N., doktor sel'skokhozyaystvennykh nauk; LITOVCHENKO, G.R., kand.
sel'skokhozyaystvennykh nauk; KOLOBOV, G.M.; IOFE, M.Sh.; KHITENKOV,
G.G., doktor sel'skokhozyaystvennykh nauk; BADIR'YAN, G.G., doktor
sel'skokhozyaystvennykh nauk; IVANOVA, A.A.; MAKAROV, A.P.; ALTAYSKIY,
I.P.; SPIRIDONOV, A.L., kand. sel'skokhozyaystvennykh nauk; ZHUYKOV,
G.G.; BANNIKOV, N.A., red.; IVANOVA, A.N., red.; ZUBRILINA, Z.P.,
tekhn. red.

[Economics and organization of stockbreeding on collective farms]
Ekonomika i organizatsiia zhivotnovodstva v kolkhozakh. Moskva,
Gos. izd-vo sel'khoz. lit-ry, 1958. 550 p.   (MIRA 11:7)
                    (Stock and stockbreeding)

ROGOZIN, G.M., redaktor; BANNIKOV, N.A, redaktor; IVANOVA, A.N., redaktor;
ZUBRILINA, Z.P., tekhnicheskiy redaktor.

[Zootechnician's manual] V pomoshch' sootekhniku. Moskva, Gos.izd-vo
sel'khoz.lit-ry, 1957. 662 p. (Kolkhoznaia ekonomicheskaia biblioteka
no.4)   (MIRA 10:5)

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25149. ROGOZIN, G. M.   Novyy Minimum Pogolov̌bya Obshchestvennogo Skota V.
Kolkhozakh. Sots. Zhivotnovodstvo, 1949, No 3, S. 67-71

SO: Letopis' No. 32, 1949

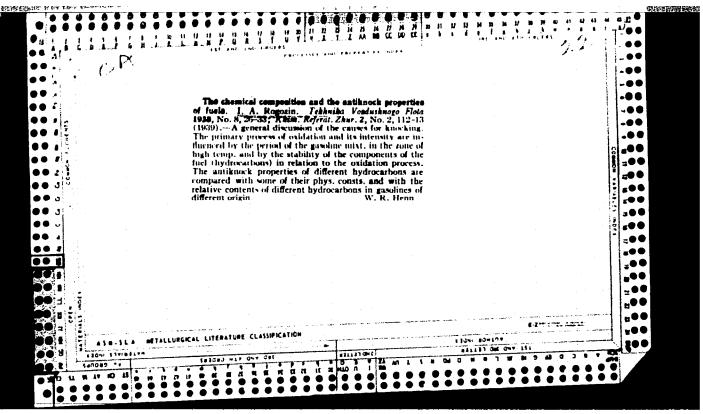KISTER, E.G.; LERNER, R.S.; ROGOZIN, G.V.

Investigating the lubricating properties of circulating fluids.
Trudy VNIIBT no.8:140-153 '63.   (MIRA 17:9)

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Five cases of repeated pregnancy following the operation of simple
ligation of the fallopian tubes. Akush. i gin. no.6:127 N-D '63.
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1. Iz Vel'skoy rayonnoy bol'nitsy Arkhangel'skoy oblasti (glavnyy
vrach A.A.Abramov).

The chemical composition and the antiknock properties of fuels. I. A. Rogozin. *Tekhnika Vozdushnogo Flota* 1938, No. 8, 29-33; *Khim. Referat. Zhur.* 2, No. 2, 112-13 (1939).—A general discussion of the causes for knocking. The primary process of oxidation and its intensity are influenced by the period of the gasoline mixt. in the zone of high temp. and by the stability of the components of the fuel (hydrocarbons) in relation to the oxidation process. The antiknock properties of different hydrocarbons are compared with some of their phys. consts. and with the relative contents of different hydrocarbons in gasolines of different origin   W. R. Henn

METALLURGICAL LITERATURE CLASSIFICATION

PA 17030

USSR/Medicine - Malaria   May/Jun 1947
      Medicine - Epidemiology

"The Results of Malaria Contro, in the First Year
of the Fourth Stalin Five-Year Plan," I. I. Rogozin
S. Y. Sarikyan, Corresponding Members of the
Academy of Medical Sciences, USSR, 7 pp

"Meditsinskaya Parazitologiya" No 3

It was found that the area of malarial infection
extended up to 63°N. Three tables of statistics
given on incidence, prophylaxis, and medical per-
sonnel.

17T30